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BANGLADESH LANDSAT -2 PROGRAMME

I. INTRODUCTION:

Title of Investigation : Investigations using data from
Landsat - 2.

Investigation Number : G 27950

Principal Investigator : Dr. Anwar Hossain

Name & Address of the
Principal Investigator's
Organisation. : Bangladesh LANDSAT Programme
LANDSAT CENTRE
House No. 605, Road No. 18
Dhanmondi R.A., Dacca
Bangladesh

Date : January 1978

Type of Report &
period covered. : Quarterly Report, October-December 1977

Name & Address of
sponsoring Agency : Bangladesh National ERTS Programme
Science & Technology Division
Cabinet Secretariat
Government of the People's Republic of
Bangladesh, Dacca.

II. TECHNIQUES:

Landsat image analysis of the frames covering Bangladesh was carried out with black and white and diazo printouts. Aerial photos, topo sheets, soil survey maps, forestry and landuse maps etc. were used as supporting materials for analysis. Zoom transferoscope, mirror stereoscope, scanner stereoscope, portable light table, planvariograph etc. were the instruments used. Ground truth data were collected in the Bay of Bengal with Oceanographic Research Vessel provided with navigation chart and Decca.

For digital processing of landsat data IBM 360/30 computer of the Bureau of Statistics was trained by experts from ERIM visiting Bangladesh.

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III. ACCOMPLISHMENT:

During the period under report extensive ground truth missions were under taken in the Bay of Bengal (Land accretion), in Sunderbans (forest inventory) and in Dacca and Comilla districts (agricultural crop estimation). Experts from Environmental Research Institute of Michigan assisted in these ground truth missions. The ERIM team joined Bangladesh ERTS Task Force under a sub-contract under UNDP/FAO Project for the production of digital maps on the land accretion in the Bay of Bengal and also on the winter crop inventory in the country. The team was in Bangladesh from October 21-31, 1977. Data collected were on soils, climate, water, water depth transparencies, sedimentations, rate of sedimentation, erosion, turbidity at different depths etc., for use in production of digital maps.

In the agricultural sector, for continued ground truth mission in selected test sites with repeatitive photography, local agricultural extension workers were mobilised for collection of data. The photographs and the collected data were ready to be carried to ERIM by the team that left for on-the-job training under the sub-contract subsequently. Local analysis of data were carried out in Hydraulic research laboratories of Bangladesh Water Development Board. Aerial photographs for the team were available from Survey of Bangladesh and navigation charts, hydrographic survey data and reports were available from IWTA.

In the forestry sector a detailed ground truth mission was carried out in Sunderbans from December 23 to 29th, 1977. Stratified aerial photos, and old forest inventory maps were used for selection of sample for inventory. Stratification was done in aerial photographs taken in 1975 using mirror stereoscope and old Delft type scanner stereoscope. This was compared with stratification made on satellite imageries of the same region taken in same period using Zoom transfer-scope with magnification 10 x. Detailed ground truth data have been carried by the team to ERIM for use in the analysis of CCT data of the Sunderbans.

During the period under report the National ERTS Committee met twice to assess the past activities and future programme. The Committee has assured the programme with sufficient administrative and financial backup. The Committee has also approved the report of the

Landsat Programme. The Committee has also approved the inclusion of a new sector - the Statistics sector, in the Task Force.

During the visit of ERIM Team, a half-day workshop/seminar was organized for the Task Force on November 3, 1977 in which all time members of the ERIM team participated.

During the period under report Mr. M.U. Chaudhury, Chief Investigator (forestry) and Secretary of the ERTS Task Force joined as full time Director of the Bangladesh ERTS (Landsat) Programme.

IV. TRAINING & VISITS:

1) Mr. M. A. Rashid, Chief Investigator, Water Resources attended the UN Training Seminar on remote sensing and its applications held in Baku, USSR from October 3-19, 1977.

2) Dr. A. M. Choudhury, C.I., Meteorology sector, attended a two month course on the 'Physics of the Earth' organized by I.C.T.P. Trieste, Italy from September 77 to December 2, 1977.

3) Mr. M. U. Chaudhury, Director, ERTS (Landsat) Programme and Secretary of the ERTS (Landsat) Task Force attended the meeting of the Programme Committee of the 12th International Symposium on Remote Sensing of Environment held at Manila from December 13-17, 1977. He represented Dr. Anwar Hossain, Principal Investigator, who is a member of the Committee.

V. SIGNIFICANT RESULTS:

1) Ground truth data collected by the Task Force in coastal area confirms the sedimentation base line at 5 fathom depth and less. Further details will come out when Landsat CCT's are analysed.

2) Forestry ground truth at Supati in Sunderbans were found to confirm with the stratifications in the aerial photos and in some of the spots in Satellite images. Detailed mapping with CCT's will confirm further details.

VI. PUBLICATIONS:

- 1) Bangladesh ERTS (LANDSAT) Programme: A Review of the Programme and A Report of the Activities - By A. Hossain, M.U. Chaudhury, & M.A.H. Pramanik.
- 2) Preliminary studies of sedimentation pattern and land formations in the Feni and Little Feni river estuaries - By M.A.H. Pramanik, M.U. Chaudhury & N.H. MacLeod.

VII. PROBLEM:

Nothing Special.

VIII. DATAQUALITY & DELIVERY:

Data quality is good, but delivery is not timely. The latest imagery received was of February, 1977, that arrived in November 1977. Since then no imagery has been received.

IX. RECOMMENDATION:

Bangladesh's desire to participate in LANDSAT - C and LANDSAT - D is reiterated. Bangladesh also desires to get continuous support from NASA in future.

X. CONCLUSION:

It is felt that real-time data will be required in Bangladesh for its National Resources Survey and national hazard monitoring. Establishment of a ground receiving station is, therefore, extremely necessary.

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